IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/929,716	08/31/2001	Antoine J. Rouphael	2001P14759US

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AMENDMENTS TO THE DRAWINGS

In the Drawings:

NONE

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REMARKS

Applicant respectfully thanks the Examiner for the consideration provided to this application, and respectfully requests reconsideration of this application in light of the foregoing amendments and the following remarks.

Each of claims 1, 3, 4, 6, 7, 10, and 11 has been amended for at least one reason unrelated to patentability, including at least one of: to explicitly present one or more elements, limitations, phrases, terms and/or words implicit in the claim as originally written when viewed in light of the specification, thereby not narrowing the scope of the claim; to detect infringement more easily; to enlarge the scope of infringement; to cover different kinds of infringement (direct, indirect, contributory, induced, and/or importation, etc.); to expedite the issuance of a claim of particular current licensing interest; to target the claim to a party currently interested in licensing certain embodiments; to enlarge the royalty base of the claim; to cover a particular product or person in the marketplace; and/or to target the claim to a particular industry.

Claims 1-11 are now pending in this application. Each of claims 1, 4, 6, and 10 are in independent form.

I. The Anticipation Rejections

Each of claims 1-7 was rejected as anticipated under 35 U.S.C. 102(b). In support of the rejection, various portions of U.S. Patent No. 6,647,069 ("Segal") were applied. These rejections are respectfully traversed.

A. Legal Standards

1. Express Anticipation Rejections

To establish a *prima facie* case of express anticipation, the "invention must have been known to the art in the detail of the claim; that is, all of the elements and limitations of the claim must be shown in a single prior art reference, arranged as in the claim". *Karsten Mfg. Corp. v. Cleveland Golf Co.*, 242 F.3d 1376, 1383, 58 USPQ2d 1286, 1291 (Fed. Cir. 2001); *See also,* MPEP 2131. The single reference must describe the claimed subject matter "with sufficient clarity and detail to establish that the subject matter existed in the prior art and that its existence

was recognized by persons of ordinary skill in the field of the invention". *Crown Operations Int'l, LTD v. Solutia Inc.*, 289 F.3d 1367, 1375, 62 USPQ2d 1917, 1921 (Fed. Cir. 2002). Moreover, the prior art reference must be sufficient to enable one with ordinary skill in the art to practice the claimed invention. *In re Borst*, 345 F.2d 851, 855, 145 USPQ 554, 557 (CCPA 1965), *cert. denied*, 382 U.S. 973 (1966); *Amgen, Inc. v. Hoechst Marion Roussel, Inc.*, 314 F.3d 1313, 1354, 65 USPQ2d 1385, 1416 (Fed. Cir. 2003) ("A claimed invention cannot be anticipated by a prior art reference if the allegedly anticipatory disclosures cited as prior art are not enabled.")

The USPTO "has the initial duty of supplying the factual basis for its rejection." *In re Warner*, 379 F.2d 1011, 154 USPQ 173, 178 (CCPA 1967).

2. Inherent Anticipation Rejections

Establishing *prima facie* case of "[i]nherent anticipation requires that the missing descriptive material is necessarily present, not merely probably or possibly present, in the prior art." *Trintec Indus., Inc. v. Top-U.S.A. Corp.*, 295 F.3d 1292, 1295, 63 USPQ2d 1597, 1599 (Fed. Cir. 2002); *See also*, MPEP 2112.

3. Unfounded Assertions of Knowledge

A bald assertion of knowledge generally available to one of ordinary skill in the art to bridge the evidentiary gap is improper. Such unfounded assertions are not permissible substitutes for evidence. *See, In re Lee*, 277 F.3d 1338, 1435, 61 USPQ2d 1430, 1435 (Fed. Cir. 2002). That is, deficiencies of the cited references can not be remedied by general conclusions about what is basic knowledge or common sense to one of ordinary skill in the art. *In re Zurko*, 258 F.3d 1379, 1385-86 (Fed. Cir. 2001).

B. Analysis

1. Claim 1

Segal fails to establish a *prima facie* case of anticipation.

Specifically, claim 1, from which each of claims 2 and 3 ultimately depends, states, *inter alia*, yet the present Office Action fails to allege that any applied portion of any relied upon reference teaches, "generating a white noise data sequence".

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Claim 1, from which each of claims 2 and 3 ultimately depends, states, *inter alia,* yet the applied portions of Segal do not teach "determining a level of intersymbol interference of a final shaping filter where said final shaping filter is obtained by processing signals associated with said initial shaping filter". The present Office Action alleges, at Page 3, "Segal teaches ... determining a level of intersymbol interference for a final shaping filter, wherein the final shaping filter is obtained by further processing the initial shaping filter (Fig. 4, means 414 and 417)". Applicant respectfully submits that "means 414" of Segal allegedly illustrates a schematic representation of a "modified matched filter" and "417" allegedly illustrates a schematic representation of an "adaptive equalizer". Applicant respectfully requests a detailed explanation regarding:

a. How do the applied portions of Segal teach "determining" anything whatsoever?
b. How do the applied portions of Segal teach any "level of intersymbol interference" at all?
c. How do the applied portions of Segal teach "said final shaping filter is obtained by processing signals associated with said initial shaping filter"?
d. How do the applied portions of Segal teach "determining a level of intersymbol interference of a final shaping filter where said final shaping filter is obtained by processing signals associated with said initial shaping filter"?

Applicant respectfully submits that the applied portions of Segal do not teach, "determining a level of intersymbol interference of a final shaping filter where said final shaping filter is obtained by processing signals associated with said initial shaping filter".

Claim 1, from which each of claims 2 and 3 ultimately depends, states, *inter alia,* yet the applied portions of Segal do not teach "updating final shaping filter coefficients at optimal sampling points other than every sample iteratively until the intersymbol interference is at or below a desired level". The present Office Action alleges, at Page 3, "Segal teaches ... updating final shaping filter coefficients iteratively at a sampling rate until the steady state of the system is reached (Fig. 4, means 417)". Applicant respectfully submits that "means 417" allegedly illustrates a schematic representation of an "adaptive equalizer". Applicant respectfully requests a detailed explanation regarding:

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a. How do the applied portions of Segal teach "updating" anything whatsoever?

b. How do the applied portions of Segal teach any "final shaping filter coefficients" at all?

c. How do the applied portions of Segal teach "updating final shaping filter coefficients at optimal sampling points other than every sample iteratively until the intersymbol interference is at or below a desired level"?

Applicant respectfully submits that the applied portions of Segal do not teach, "updating final shaping filter coefficients at optimal sampling points other than every sample iteratively until the intersymbol interference is at or below a desired level".

The present Office Action alleges, at Page 3:

> [o]ne of ordinary skill in the art would recognize that it is inherent for any filter to work at a specific sampling rate/ period; therefore, the filter coefficients are updated at a specific rate (i.e. optimal sampling points other than non-sampling points).

No evidence has been presented that the admittedly "missing descriptive material is 'necessarily present'" in Segal. Thus, Segal fails to properly establish inherent anticipation.

If a rejection of claim 1 is maintained based upon inherency, Applicant respectfully requests a reference demonstrating that the admittedly missing claimed subject matter is "necessarily present" and not merely possibly or probably present in the applied portions of the relied upon references.

Claim 1, from which each of claims 2 and 3 ultimately depends, states, *inter alia*, yet the applied portions of Segal do not teach "configuring a transmit filter of a radio frequency communications system with said final shaping filter coefficients".

For at least this reason, it is respectfully submitted that the rejection of claim 1 is unsupported by Segal and should be withdrawn. Also, each rejection of claims 2 and 3, each ultimately depending from independent claim 1, is unsupported by Segal and also should be withdrawn.

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2. Claim 2

Segal fails to establish a *prima facie* case of anticipation.

Claim 2 states, *inter alia,* yet the applied portions of Segal do not teach "wherein said optimal sampling points are at a sampling period".

The present Office Action alleges, at Page 3:

> [o]ne of ordinary skill in the art would recognize that it is inherent for any filter to work at a specific sampling rate/ period; therefore, the filter coefficients are updated at a specific rate (i.e. optimal sampling points other than non-sampling points).

No evidence has been presented that the admittedly "missing descriptive material is 'necessarily present'" in Segal. Thus, Segal fails to properly establish inherent anticipation.

If a rejection of claim 2 is maintained based upon inherency, Applicant respectfully requests a reference demonstrating that the admittedly missing claimed subject matter is "necessarily present" and not merely possibly or probably present in the applied portions of the relied upon references.

For at least this reason, it is respectfully submitted that the rejection of claim 2 is unsupported by Segal and should be withdrawn.

3. Claim 3

Segal fails to establish a *prima facie* case of anticipation.

Claim 3 states, *inter alia,* yet the applied portions of Segal do not teach "wherein said initial shaping filter is specified by performing a convolution on a signal associated with a given filter, with certain spectral and time domain characteristics, with a signal associated with a matched complex counterpart of said given filter".

The present Office Action alleges, at Page 3, "Segal teaches convolving the spectral shaping filter (Fig. 4, means 405 and 414) with its matched filter to derive the shaping filter (Fig. 4, means 414)." Yet "means 405" allegedly illustrates a "transmitter filter" and "means 414"

allegedly illustrates a "modified matched filter". Applicant respectfully requests a detailed explanation regarding:

a. How do the applied portions of Segal teach any "convolution" whatsoever?

b. How do the applied portions of Segal teach any "signal associated with a matched complex counterpart of said given filter" at all?

c. How do the applied portions of Segal teach "wherein said initial shaping filter is specified by performing a convolution on a signal associated with a given filter, with certain spectral and time domain characteristics, with a signal associated with a matched complex counterpart of said given filter"?

Applicant respectfully submits that the applied portions of Segal do not teach, "wherein said initial shaping filter is specified by performing a convolution on a signal associated with a given filter, with certain spectral and time domain characteristics, with a signal associated with a matched complex counterpart of said given filter".

For at least this reason, it is respectfully submitted that the rejection of claim 3 is unsupported by Segal and should be withdrawn.

4. Claim 4

Segal fails to establish a *prima facie* case of anticipation.

Specifically, claim 4, from which claim 5 ultimately depends, states, *inter alia,* yet the applied portions of Segal do not teach, "generating a noise data sequence, said data sequence comprising a channel noise and **intersymbol interference** model". Applicant respectfully submits that the applied portions of Segal are silent regarding an "**intersymbol interference** model".

Claim 4, from which claim 5 ultimately depends, states, *inter alia,* yet the applied portions of Segal do not teach "convolving said data sequence with said signal associated with said given filter; and deriving a specification of an optimized shaping filter responsive to said convolving by adaptively minimizing an error metric at points on said initial shaping filter corresponding to optimal sampling points other than every sample thus producing a signal with minimal ISI period". The present Office Action alleges, at Pages 3-4, "Segal teaches ... deriving

an optimized filter responsive to the convolution between the data sequence that includes noise and the given filter (means 414) since as one of ordinary skill in the art would clearly recognize that the relationship between the input and output of any filter in the time domain is the convolution of the input with the transfer function of the filter, which is equal to the output signal of the filter". Applicant respectfully submits that this unsupported assertion fails to provide any evidence whatsoever upon which a *prima facie* rejection can be based and/or maintained. Further, the applied portions of Segal are silent regarding any "error metric" at all.

The present Office Action asserts, at Page 4:

> [o]ne of ordinary skill in the art would recognize that it is inherent for any filter to work at a specific sampling rate/ period; therefore, the filter coefficients are updated at a specific rate (i.e. optimal sampling points other than non-sampling points).

Applicant respectfully submits that this unsupported assertion provides no evidence, and no evidence has been presented, that the admittedly "missing descriptive material is 'necessarily present'" in Segal. Thus, Segal fails to properly establish inherent anticipation.

If a rejection of claim 4 is maintained based upon inherency, Applicant respectfully requests a reference demonstrating that the admittedly missing claimed subject matter is "necessarily present" and not merely possibly or probably present in the applied portions of the relied upon references.

Claim 4, from which claim 5 ultimately depends, states, *inter alia*, yet the applied portions of Segal do not teach "configuring a transmit filter of a radio frequency communications system with coefficients associated with said optimized shaping filter".

For at least this reason, it is respectfully submitted that the rejection of claim 4 is unsupported by Segal and should be withdrawn. Also, the rejection of claim 5, which depends from independent claim 4, is unsupported by Segal and also should be withdrawn.

5. Claim 5

Segal fails to establish a *prima facie* case of anticipation.

Claim 5 states, *inter alia*, yet the applied portions of Segal do not teach "said error metric comprising a least mean squares error metric".

For at least this reason, it is respectfully submitted that the rejection of claim 5 is unsupported by Segal and should be withdrawn.

6. Claim 6

Segal fails to establish a *prima facie* case of anticipation.

Claim 6, from which claim 7 ultimately depends, states, *inter alia*, yet the applied portions of Segal do not teach, "an initial shaping filter comprising a channel noise filter and intersymbol interference shaping filter, said intersymbol interference shaping filter adapted to minimize intersymbol interference". Applicant respectfully submits that the applied portions of Segal are silent regarding any filter "adapted to minimize intersymbol interference". For at least this reason, Applicant respectfully submits that the applied portions of Segal do not teach, "an initial shaping filter comprising a channel noise filter and intersymbol interference shaping filter, said intersymbol interference shaping filter adapted to minimize intersymbol interference".

Claim 6, from which claim 7 ultimately depends, states, *inter alia*, and the present Office Action admits that the applied portions of Segal do not teach, "the shaping filter specified by constraining filter coefficients in their adaptation at optimal sampling points and not constraining said filter coefficients at points other than optimal sampling points". The present Office Action offers no evidence or basis for rejecting claim 6, which comprises subject matter admittedly missing from the applied portions of the relied upon references.

Claim 6, from which claim 7 ultimately depends, states, *inter alia*, yet the applied portions of Segal do not teach "coefficients for said initial shaping filter specified based upon a matched filter and data sequence".

For at least this reason, it is respectfully submitted that the rejection of claim 6 is unsupported by Segal and should be withdrawn. Also, the rejection of claim 7, which depends from independent claim 6, is unsupported by Segal and also should be withdrawn.

7. Claim 7

Segal fails to establish a *prima facie* case of anticipation.

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Claim 7 states, *inter alia*, yet the applied portions of Segal do not teach "said shaping filter specified based upon a convolution between a signal associated with said initial shaping filter and a corresponding signal associated with said matched filter".

For at least this reason, it is respectfully submitted that the rejection of claim 7 is unsupported by Segal and should be withdrawn.

II. The Obviousness Rejections

Each of claims 8-11 was rejected under 35 U.S.C. 103(a) as being unpatentable over various combinations of U.S. Patent No. 6,647,069 ("Segal"), and/or U.S. Patent Publication No. 2003/0035495 ("Laamanen"). Each of these rejections is respectfully traversed.

A. Legal Standards

1. *Prima Facie* Criteria for an Obviousness Rejection

Over 40 years ago, in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), the Supreme Court established factors regarding the factual inquiry required to establish obviousness. The factors include:

1. determining the scope and contents of the prior art;
2. ascertaining differences between the prior art and the claims at issue;
3. resolving the level of ordinary skill in the pertinent art; and
4. considering objective evidence indicating obviousness or nonobviousness.

The Federal Circuit has applied *Graham's* required factual inquiry in numerous legal precedents that are binding on the USPTO.

It is recognized that most patentable inventions arise from a combination of old elements and often, each element is found in the prior art. *In re Rouffet*, 149 F.3d 1350, 1357 (Fed. Cir. 1998). The United States Supreme Court clarified the obviousness inquiry criteria in *KSR International Co. v. Teleflex Inc.*, 2007 U.S. LEXIS 4745 (2007). The KSR Court held:

1. "[t]he question is not whether the combination was obvious to the patentee but whether the combination was obvious to a person with ordinary skill in the art";

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2. "a patent composed of several elements is not proved obvious allegedly by demonstrating that each of its elements was, independently, known in the prior art";
3. it is necessary "to determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue. To facilitate review, this analysis should be made explicit"; and
4. "[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness" (*quoting In re Kahn*, 441 F. 3d 977, 988 (Fed. Cir. 2006)).

In order to establish a *prima facie* case of obviousness, three basic criteria must be met. First, evidence must be provided that indicates that the combination was obvious to a person with ordinary skill in the art. The evidence must include an apparent reason, with a rational underpinning, to combine the known elements in the fashion claimed in the patent at issue. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach... all the claim limitations. *KSR International Co. v. Teleflex Inc.*, 2007 U.S. LEXIS 4745 (2007); *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991); MPEP 2143.

Moreover, the "Patent Office has the initial duty of supplying the factual basis for its rejection." *In re Warner*, 379 F.2d 1011, 154 USPQ 173, 178 (CCPA 1967), cert. denied, 389 U.S. 1057, *reh'g denied*, 390 U.S. 1000 (1968). "It may not... resort to speculation, unfounded assumptions or hindsight reconstruction to supply deficiencies in its factual basis". *Id.*

It is legal error to "substitute[] supposed *per se* rules for the particularized inquiry required by section 103. It necessarily produces erroneous results." *See, In re Ochiai*, 71 F.3d 1565, 1571, 37 USPQ2d 1127, 1132-33 (Fed. Cir. 1998); *In re Wright*, 343 F.2d 761, 769-770, 145 USPQ 182, 190 (CCPA 1965).

"Once the examiner... carries the burden of making out a *prima facie* case of unpatentability, 'the burden of coming forward with evidence or argument shifts to the

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applicant.'" *In re Alton*, 76 F.3d 1168, 37 USPQ2d 1578 (Fed. Cir. 1996) (*quoting In re Oetiker*, 977 F.2d at 1445, 24 USPQ2d at 1444).

2. All Words in a Claim Must Be Considered

"To establish *prima facie* obviousness..., '[a]ll words in a claim must be considered....'" MPEP 2143.03, *quoting In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970); *see also, In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974); *In re Wilder*, 429 F.2d 447, 166 USPQ 545, 548 (CCPA 1970); *In re Angstadt*, 537 F.2d 498, 190 USPQ 214, 217 (CCPA 1976); *In re Geerdes*, 491 F.2d 1260, 180 USPQ 789, 791 (CCPA 1974).

3. Inherency

Inherency "requires that the missing descriptive material is 'necessarily present,' not merely probably or possibly present, in the prior art." *Trintec Indus., Inc. v. Top-U.S.A. Corp.*, 295 F.3d 1292, 1295, 63 USPQ2d 1597, 1599 (Fed. Cir. 2002).

4. Unfounded Assertions of Knowledge

A bald assertion of knowledge generally available to one of ordinary skill in the art to bridge the evidentiary gap is improper. Such unfounded assertions are not permissible substitutes for evidence. *See, In re Lee*, 277 F.3d 1338, 1435, 61 USPQ2d 1430, 1435 (Fed. Cir. 2002). That is, deficiencies of the cited references can not be remedied by general conclusions about what is basic knowledge or common sense to one of ordinary skill in the art. *In re Zurko*, 258 F.3d 1379, 1385-86 (Fed. Cir. 2001).

5. Evidence of Obviousness – Combination of References

Under the *Graham* analysis, the "examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness." MPEP 2142. The requirements for meeting this burden are clear.

To factually support a *prima facie* conclusion of obviousness, an Office Action must provide evidence that indicates that the combination was obvious to a person with ordinary skill in the art. The evidence must include an apparent reason, with a rational underpinning, to

combine the known elements in the fashion claimed in the patent at issue. "[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness" *KSR International Co. v. Teleflex Inc.*, 2007 U.S. LEXIS 4745 (2007) (*quoting In re Kahn*, 441 F. 3d 977, 988 (Fed. Cir. 2006).

B. Analysis

1. Claim 8

Since claim 8 depends from claim 6, the rejection of claim 8 should be reversed based upon the traversals of the rejection of claim 6, *supra.*

Claim 8 states, yet the present Office Action admits the applied portions of Segal do not teach, "wherein said constraining is iteratively performed until an error metric reaches a steady state minimum level."

Instead of providing evidence of obviousness, the present Office Action merely makes an unsupported assertion, at Page 5, that "[o]ne of ordinary skill in the art would recognize that by utilizing the LMS algorithm which is an adaptive algorithm the filter coefficients are updated until the error metric is minimized and/ or reaches a predetermined value."

Applicant respectfully submits that this unsupported assertion is both legally and factually insufficient to establish a *prima facie* obviousness rejection of claim 8. For at least these reasons, a reconsideration and withdrawal of the rejection of claim 8 is respectfully requested.

2. Claim 9

Since claim 9 depends from claim 6, the rejection of claim 9 should be reversed based upon the traversals of the rejection of claim 6, *supra.*

Claim 9 states, and the present Office Action admits the applied portions of Segal do not teach, "wherein said constraining is iteratively performed until an error metric reaches a predetermined threshold level."

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Instead of providing evidence of obviousness, the present Office Action merely makes an unsupported assertion, at Page 5, that "[o]ne of ordinary skill in the art would recognize that by utilizing the LMS algorithm which is an adaptive algorithm the filter coefficients are updated until the error metric is minimized and/ or reaches a predetermined value."

Applicant respectfully submits that this unsupported assertion is both legally and factually insufficient to establish a *prima facie* obviousness rejection of claim 9. For at least these reasons, a reconsideration and withdrawal of the rejection of claim 9 is respectfully requested.

8. Claim 10

The applied portions of the relied upon references fail to establish a *prima facie* case of obviousness.

Claim 10, from which claim 11 ultimately depends, states, *inter alia,* yet the applied portions of Segal do not teach, "convolving a signal associated with said initial filter with a complex conjugate of said signal to obtain a specification of an initial shaping filter". Applicant respectfully submits that the applied portions of Segal are silent regarding any filter "convolving" activity whatsoever. For at least this reason, Applicant respectfully submits that the applied portions of Segal do not teach, "convolving a signal associated with said initial filter with a complex conjugate of said signal to obtain a specification of an initial shaping filter".

Claim 10, from which claim 11 ultimately depends, states, *inter alia,* and the present Office Action admits that the applied portions of Segal do not teach, "convolving said signal associated with said initial filter with a noise data sequence, said noise data sequence comprising a channel noise and intersymbol interference model". Applicant respectfully submits that the applied portions of Segal are silent regarding any filter "convolving" activity at all. For at least this reason, Applicant respectfully submits that the applied portions of Segal do not teach, "convolving a signal associated with said initial filter with a complex conjugate of said signal to obtain a specification of an initial shaping filter".

Claim 10, from which claim 11 ultimately depends, states, *inter alia,* and the present Office Action admits that the applied portions of the relied upon references do not teach,

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"deriving, responsive to said first convolving and second convolving, a specification of a shaping filter by minimizing an error metric at points on said signal associated with said initial filter corresponding to an upsampling period, the upsampling period comprising optimal sampling points other than every sampling point". Applicant respectfully submits that the applied portions of Segal are silent regarding any filter "convolving" activity whatsoever. The present Office Action asserts at Pages 5-6:

> deriving an optimized filter responsive to the convolution between the data sequence that includes noise and the given filter (means 414) since as one of ordinary skill in the art would clearly recognize that the relationship between the input and output of any filter in the time domain is the convolution of the input with the transfer function of the filter, which is equal to the output signal of the filter.

Applicant respectfully submits that this unsupported assertion is insufficient to establish a *prima facie* obviousness rejection. The present Office Action also asserts, at Page 6:

> [o]ne of ordinary skill in the art would recognize that it is inherent for any filter to work at a specific sampling rate/ period; therefore, the filter coefficients are updated at a specific rate (i.e. optimal sampling points other than every sample).

Applicant respectfully submits that this unsupported assertion is insufficient to establish that the admittedly missing claimed subject matter is necessarily present and not merely possibly or probably present in the applied portions of the relied upon references and, as a result, is insufficient to establish a *prima facie* obviousness rejection. The present Office Action also asserts, at Page 6:

> it would have been obvious to one of ordinary skill in the art to combine the teaching of Laamanen with Segal in order for the shaping filter to work at different optimal sampling rates/ periods including upsampling rate/ period; therefore, the system flexibility is increased.

Applicant respectfully submits that this unsupported assertion fails to comply with the requirements of *KSR* since no "rational underpinning, to combine the known elements in the

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fashion claimed in the patent at issue". As stated in *KSR* as cited, *supra*, ""[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements".

For at least these reasons, Applicant respectfully submits that the applied portions of the relied upon references do not teach, "deriving, responsive to said first convolving and second convolving, a specification of a shaping filter by minimizing an error metric at points on said signal associated with said initial filter corresponding to an upsampling period, the upsampling period comprising optimal sampling points other than every sampling point".

Claim 10, from which claim 11 ultimately depends, states, *inter alia*, yet the applied portions of Segal do not teach "configuring a transmit filter of a radio frequency communications system with coefficients based upon said specification of said shaping filter".

For at least this reason, it is respectfully submitted that the rejection of claim 10 is unsupported by Segal and should be withdrawn. Also, the rejection of claim 11, which depends from independent claim 10, is unsupported by Segal and also should be withdrawn.

3. Claim 11

Claim 11 states, yet the present Office Action fails to allege that any applied portion of any relied upon reference teaches, "wherein said deriving comprises constraining filter coefficients in their adaptation at optimal sampling points and not constraining them at non-sampling points."

For at least these reasons, a reconsideration and withdrawal of the rejection of claim 11 is respectfully requested.

III. Next Office Action

If an Office Action fails to set forth sufficient facts to provide a *prima facie* basis for the rejections, any future rejection based on the applied reference will necessarily be factually based on an entirely different portion of that reference, and thus will be legally defined as a "new grounds of rejection." Consequently, any Office Action containing such rejection can not properly be made final. *See, In re Wiechert*, 152 USPQ 247, 251-52 (CCPA 1967) (defining "new ground of rejection" and requiring that "when a rejection is factually based on an entirely different portion of an existing reference the appellant should be afforded an opportunity to

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make a showing of unobviousness vis-a-vis such portion of the reference"), and *In re Warner*, 379 F.2d 1011, 154 USPQ 173, 178 (CCPA 1967) (the USPTO "has the initial duty of supplying the factual basis for its rejection").

CONCLUSION

It is respectfully submitted that, in view of the foregoing amendments and remarks, the application as amended is in clear condition for allowance. Reconsideration, withdrawal of all grounds of rejection, and issuance of a Notice of Allowance are earnestly solicited.

The Office is hereby authorized to charge any additional fees or credit any overpayments under 37 C.F.R. 1.16 or 1.17 to Deposit Account No. 19-2179. The Examiner is invited to contact the undersigned at 732-321-3017 to discuss any matter regarding this application.

Respectfully submitted,

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